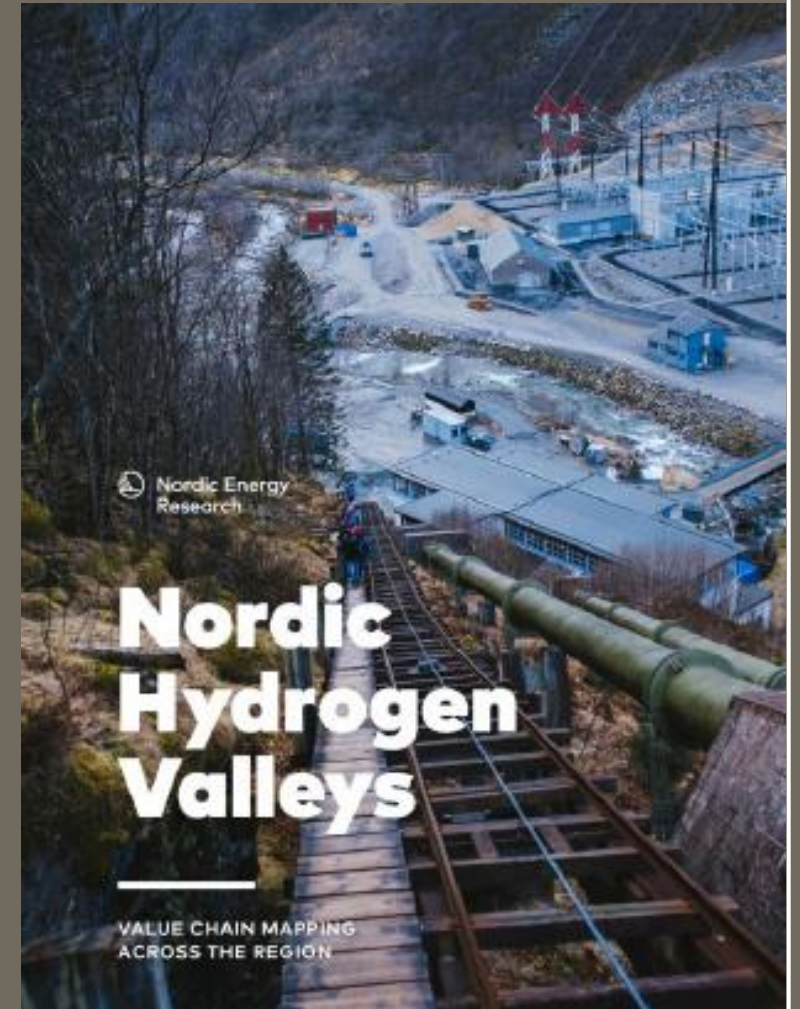


# Mapping Nordic Hydrogen Valleys

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# Mapping Nordic Hydrogen Valleys

- One [report](#)
- One [online visualisation tool](#)
- Published on November 14 2024

# Purpose

- Overview of clean hydrogen in the Nordics
- Provide policy makers and stakeholders with relevant material
- Common Nordic definitions

# Tasks

1. **Develop** a concept for "Nordic hydrogen valleys" and based on this concept **map** such "Nordic hydrogen valleys".
2. **Identify catalysts** and significant **barriers** to the development of "Nordic hydrogen valleys".
3. Analyse the potential for using "clean" hydrogen and other "fuels" based on "clean" hydrogen in **Arctic maritime transport**.
4. Develop a **digital tool** for mapping "hydrogen valleys" in the Nordic and Arctic areas.

# Nordic hydrogen value chains

1. Nordic hydrogen valleys

2. Nordic hydrogen hotspots

# Definition

- The MI definition would exclude most projects
- Need for a nordic definition

# Definition – Mission Innovation

- Based on EU **hydrogen valley** concept used by Mission Innovation Hydrogen Valleys Platform and Horizon Europe
  1. Supply of more than one sector
  2. Scale
  3. Value chain coverage
  4. Geographical scope
  5. Project feasibility
  6. Source of hydrogen

# Definition – adaptation to the Nordics

1. Cover a **specific geography** in at least one Nordic country
2. Cover at least **two steps** of the hydrogen value chain (production → distribution → use)
3. Have a hydrogen production **capacity exceeding 500 tpa**
4. Supply hydrogen to at least **two different end-use sectors**
5. Have at least **reached the feasibility phase** (feasibility study in progress)



# Definition – Nordic hydrogen hotspot

- Criterion 1 (**specific geography**) and
- At least 2 of criteria 2-5 in the “Nordic hydrogen valley” definition

# Nordic hydrogen value chains

Country	Hydrogen projects
Denmark	29
Faroe Islands	0
Finland	36
Greenland	1
Iceland	9
Norway	50
Sweden	38
Åland Islands	4
<b>Total</b>	<b>167</b>

# Results 1 (2)

- **167** Nordic hydrogen valleys and hotspots in the nordic countries (2024)
- Massive capacity or "potential", **270 TWh**
- **0.2 %** of this capacity is operational
- **1 %** is under construction

# Advantages of the Nordics

- High level of ambition in climate policy
- Access to cost-effective fossil-free energy
- Access to natural resources
- Access to the Atlantic and/or Baltic Sea

# What's in it for Sweden?

- Biomass
- Potential synergy between biomass and hydrogen
- Occasionally low electricity prices
- The digital tool gives important background information

# Eventuellt: Hydrogen and arctic shipping

- Important due to climate change
- Challenges
  - Weather
  - Pollution (oil leaks etc)
  - Climate issues
  - Too low supply of Hydrogen based fuels
- Opportunities
  - Shorter route to Asia

# Thank you for listening

## Read the report

<https://pub.norden.org/nordicenergyresearch2024-04/>

## Explore the tool

<https://nordich2valleys.org/>

## For questions

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CIT Renergy: Project leader [Ingrid Nyström](#)

